# SYSTEM and METHOD FOR GENERATING THREE-DIMENSIONAL DENSITY-BASED DEFECT MAP

## Abstract of the Disclosure

A system for mapping a condition of a structure that includes a plurality of support members covered by a wall is disclosed and includes a computer processor having a memory, a two-dimensional model of the structure stored in the memory and a three-dimensional model generator operatively associated with the computer. A density sensor that includes an ultrasonic transducer is operatively connected to the computer processor and provided with an ultra wideband transmitter. A position locating system is provided for determining the position of the ultra wideband transmitter, and hence the density sensor, in a frame of reference and communicating the position to the computer processor which displays indications of density on a three-dimensional model of the structure. A method for mapping a condition of a structure is also disclosed.